

ABSTRACT

A system and a method for constructing a signal integrity supervisor capable of both detecting and triggering an appropriate response when transmit path signals indicate a potential damaging transmitter operating mode. The system and method of the present invention takes advantage of the inherent property of a Delta-Sigma Modulator (DSM) which makes the probability of encountering a long string of consecutive ones or zeroes during nominal operation very small. The signal integrity supervisor ensures safe transmitter operation by monitoring the data and the clock inputs to a digital to analog converter. The system may comprise a data signal supervisor and a clock signal supervisor. The data supervisor may comprise a comparator and a counter and may be configured to power down a line driver upon detecting a data stream having a continuous voltage level. The clock detector may comprise a pair of monostable circuits, an inverter, and a NAND gate and may be configured to reset the transmitter if a "missing" clock signal state is detected. The present invention can also be viewed as providing a method for preventing a transmission unit from forwarding signals that may result in a DC flow condition. In its broadest terms, the method can be described as: monitoring a data signal; generating a first output signal in response to a data signal having an anomalous condition; monitoring a clock signal; and generating a second output signal in response to clock signal having an anomalous condition.